

JAMES ISLAND PUBLIC SERVICE DISTRICT

PO Box 12140 / 1739 Signal Point Road
Charleston, SC 29422
Phone (843) 795-9060 / Fax (843) 762-5240

Invitation for Bid

DATE: 7/30/2013

SOLICITATION NUMBER: 14-SW-01

DESCRIPTION: 20' Rear Steering Knuckleboom Loader

OPENING DATE/TIME: August 22, 2013 @ 2:00 pm
LOCATION: Conference Room @ 1739 Signal Point Road
Charleston, SC 29412

DIRECT ALL INQUIRES TO: Steve Aden, Fleet Manager
Email: adens@jipsd.org

Note(s) to Offerors:

- This solicitation does not commit the James Island Public Service District (the "District") to award a contract, to pay any cost incurred in the preparation of applications submitted, or to procure or contract for the equipment.
- All proposals must be submitted under sealed cover and *mailed or hand delivered* to:

<u>Mailing Address</u>	<u>Physical Location</u>
James Island Public Service District	James Island Public Service District
Attn: James G. Game, AFO	Attn: James G. Game, AFO
PO Box 12140	1739 Signal Point Road
Charleston, SC 29422	Charleston, SC 29412

Each sealed envelope containing a bid shall be marked on the outside with the Offeror's complete name, address, and "Knuckleboom Loader".

It is the intention of these specifications to describe the minimum requirements for a REAR STEERING LOADER to be used by the Solid Waste department to be used in the collection of oversize trash items such as discarded appliances, furniture, brush, leaves, building materials, etc.

The bidder represents by his/her bid

- all equipment is new and unused
- unit will be completely assembled, painted and ready for immediate operation
- price reflects the minimum specifications outlined below and any exceptions clearly noted beside each item

Omission of a detailed description or specification of any point will be regarded as meaning that only the best commercial practice shall prevail and that only material of the first quality and correct type, size, and design are to be used.

GENERAL

1.01	All chassis must be approved by Petersen Industries Model: M2
1.02	<u>Engine:</u> Electronic engine(CUM ISB 6.7-240 240 HP or equal)
1.03	<u>Transmission:</u> Allison 3000 RDS transmission and a rear axle with a gear ratio 3.91 which allows 16 mph in reverse(with PTO provision) WTEC 5 speed auto neutral
1.04	<u>Axle:</u> Front Axle: Detroit, 12,000 lbs. capacity. Rear Axle: Detroit, 21,000 lbs. capacity 3.91 Axle Ratio
1.05	<u>Brakes:</u> Air brake package including heater air dryer
1.06	<u>Tires:</u> Front: 11R22.5 14 PLY radial tires Rear: 11R22.5 14 PLY radial tires
1.07	Power Steering
1.08	<u>Alternator:</u> 12V 160 AMP
1.09	50 gallon fuel tank mounted on left side under cab
1.10	Mounted 10lb. Fire Extinguisher and Triangular Reflectors
1.11	<u>Required Gauges:</u> Oil pressure, coolant temperature, ammeter, fuel level, air pressure, speedometer, Engine hours, transmission and tachometer
1.12	Dual electric windshield wipers and washer

1.13	Seats: Air ride, high back driver seat(vinyl) 2 man passenger bench seat (vinyl) 2 man tool box mid back non suspension passenger seat
1.14	Noise control cab insulation meeting federal requirements
1.15	LH and RH grab handles and a grab handle for the working cab
1.16	Cab Dome light
1.17	Engine protection- automatic shut down
1.18	Air horn and a city horn
1.19	Air conditioner, heater and defroster
1.20	Double channel frame with front tow hooks
1.21	Dual west coast mirrors with spot mirror
1.22	DOT approved back-up alarm
1.23	AM/FM radio in both cabs
1.24	LED LIGHTS Marker lights, Stop/Tail/Backup
1.25	Standard front turn signal lamps
1.26	Daytime running lights
1.27	Tinted rear and side windows
1.28	<u>Cab Exterior Color:</u> Dupont Nason Acrylic True Blue M6620 (Metallic)
1.29	<u>65 MPH road speed limit</u>

PEDASTAL ASSEMBLY:

2.01	To be an open A-frame type to <u>allow flexing under repeated load shocks</u> . Total height not to exceed 7 ft. from mounting plate to top of pedestal/main boom connection point. <u>Loader sub frame/counterweight to be a 4 in. steel plate weighing approximately 4,000 lbs which reduces stress on truck frame and provides additional lifting capacity over the side.</u>
2.02	Swing post to be single piece high strength <u>solid steel</u> (ASTM 4140) turning in (ASTM-D4020-81) cast nylon bearings. Welded spindle/head assembly is to be stress relieved prior to installation.
2.03	Boom rotation to be accomplished by a direct drive 270 degree planetary gearbox with radial piston hydraulic motor. Model SAI 1250/150, with a maximum torque rating of 162,000 in. lbs. This enclosed gearbox must be 100% oil bathed which eliminates the metal-to-metal wear found in open, exposed pinion and bull gear design. To prevent spindle bending moments from being transmitted to enclosed gearbox, the gearbox must be mounted by means of a torque arm assembly.

BOOM CONSTRUCTION:

3.01	Main boom to be comprised of two ea. 4 in. x 8 in. x 3/8 in. thick high tensile steel tubes connected to each other only at their center line to <u>allow a shock absorbing flexing action of the boom</u> . Main boom must have a minimum of 800psi down pressure on the main boom for compacting loads.
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3.02	Tip boom to have an extendible/retractable telescopic section controllable from the operator's cab. Must have mechanical stops to prevent cylinder stress. The inner and outer sleeves of the telescopic section must be separated by replaceable cast nylon wear blocks on all sides to prevent metal-to-metal wear. Hydraulic hoses for the telescopic section must be enclosed in steel box for protection. No exposed tip extension hoses shall be permitted.
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LIFTING CAPACITIES:

4.01	Boom radius is measured from the center of rotation to the center of the bucket. Capacities shown must not exceed 85% of vehicle tipping moment, with machine level and outriggers fully extended. Weight of bucket and/or attachments to boom must be subtracted from lift capacities shown. (Bucket should weigh approximately 1,000 lbs.)
4.02	Minimum Capacities: 20 ft Rear: 3,260 lbs Side: 2,737 lbs

BOOM CONNECTION POINTS:

5.01	Boom connection points must be equipped with replaceable cast nylon or bronze bushings and a 2 in. bolt with castellated nut to prevent spreading of the connection pivot point.
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TRASH BUCKET:

6.01	To be a special municipal trash bucket actuated by a <u>single</u> double-acting cylinder. The bucket shall be capable of continuous rotation with no need for physical stops. Bucket rotation to be accomplished by a continuous rotation bucket motor, Model RE, with 5,500 in. lbs. torque rating. Bucket must have the capability to be rolled over on the load without damage to any components. This allows a maximum load and keeps boom height within acceptable limits. Bucket must also have a minimum reach of 9 feet below grade to allow pick up of items over bridges and in ditches.
6.02	The bucket must incorporate: <ul style="list-style-type: none"> • a 3/16 inch smooth steel clamshell scoop for leaves and sand • a minimum of 5 ribs per side to handle branches, logs and appliances • a trample ram in the center for compressing trash in body.
6.03	The bucket must be 4 ft. long with an opened width of 5 ft. between pickup blades. These blades must be high impact, tempered steel that form a reverse curve in the closed position to help prevent "scalping" and digging of grass lawns. <u>No hydraulic hoses below bucket rotator will be allowed.</u>

POWER SOURCE:

7.01	To be a transmission mounted power take off coupled directly to the hydraulic pump (no drive shafts).
7.02	PTO functions as follows Drive Mode: PTO disengages when placed in gear Load Mode : PTO disengages when RPMS exceed 1750 When placed In neutral RPMS will not exceed 1400
7.03	Must be equipped with over-speed protection

HYDRAULIC COMPONENTS:

8.01	Reservoir: 60 gallon diffused tank with <u>suction</u> and <u>return</u> filters and cutoff valves for easy servicing. Include a sight gauge with a thermometer, oil cooler and a vent filter.
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8.02	Cylinders: Double acting with chromed rods and aluminum pistons.
8.02-1	Main Boom: 5 in. x 32 in. with a 2 ½ in. shaft.
8.02-2	Tip Boom: 5 in. x 32 in. with a 2 ½ in. shaft.
8.02-3	Tip Extension: 2 in. x 48 in. with a 1 ¼ in. shaft.
8.02-4	Bucket: 4 in. x 12 in. with a 2 in. shaft.
8.03	Control Valves: Gresen stack type with port reliefs
8.04	Safety Locking Valves: Counter balance valves to be installed on boom and outrigger cylinders to prevent a leakdown or collapse in case of a hydraulic hose rupture.
8.05	Pump: Tandem Commercial Intertech P-20
8.06	Conductors: Steel tubing and high tensile steel wire braided hoses, 4,000 PSI, 16,000 PSI minimum burst.
8.07	Pressure: Main relief set at 2,400 PSI maximum.

ENGINE CONTROLS:

9.01	To be foot operated control.
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OPERATOR CONTROLS:

10.01	Platform is to be mounted between the loader and cab with a height not to exceed 7 ft. from mounting plate. Operator platform shall include a steel, windowed operator's cab. The cab shall have windows all around including the top. All windows are to be tinted. All weather cab will be equipped with the following: Mechanical, six (6) function joystick controls, Heavy duty truck type air ride seat with arm rests, seat belt, steering wheel, accelerator pedal, foot brake, emergency/parking brake (air), pto control, gear selector, air horn, engine shutoff button. All hydraulic loader and outrigger controls will be within easy reach of the operator and all loader and drive functions will be available at this platform. Top of cab is not to exceed 12 feet above grade. Dimensions shall be approximately 60 inches tall, 54 inches wide and 56 inches deep. Cab will be air conditioned and heated. Air conditioning unit will <u>not</u> be mounted on top of the truck or operator cab. Upper cab and boom to be painted Safety Yellow.
10.02	Upper cab to be equipped with air operated "work brake" or similar equipment, equal in function. Work Brake shall consist of a conveniently located air switch that when activated, shifts truck into neutral and applies the brakes. A remote throttle advance (i.e. engine speed up) may also be requested to be integrated into work brake
10.03	A backup camera shall be provided in the upper cab. Camera to be mounted on the lighting bar above the cab, on the LH side so it can be easily cleaned by standing on the driver's side step. Camera to be wired so that it operates anytime the loader is operated from the upper cab.

SUSPENSION OUTRIGGERS:

11.01	MODEL 3: Outriggers to be constructed with hydraulically powered telescoping rectangular tubing to prevent side loading and bending of cylinder shafts.
11.02	Outriggers to be equipped with large steel pads to minimize damage to street. Outriggers must telescope out and down to reach a horizontal distance of 11 ft. 8 in. between outer edges.
11.03	Outward stabilizer movement of each stabilizer to be powered by a hydraulic cylinder with a bore of 2 in. and a stroke of 20 in. The housing that accomplishes this outward movement must be separated by cast nylon bushings on all four sides to prevent metal-to-metal wear and to allow a greater area for grease.
11.04	Downward movement to be powered by two hydraulic cylinders with a bore of 3 in. and a stroke of 22 in. These cylinders must be fully enclosed for protection.

11.05	To improve loader stability while operating on tires; positive, mechanical suspension locks must be engaged on rear suspension. Suspension locks are to be spring applied and pneumatically released. Suspension locks are to be released during normal transit driving operations.
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PAINT:

12.01	Loader must receive 1 coat of high-grade primer and 2 coats of high-grade enamel: COLOR: Safety Yellow.
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REPAIR MANUAL/TRAINING:

13.01	Include 1 safety parts/service manual
13.02	Include operating training videotape
13.03	Minimum 10 hours on-site training

MISCELLANEOUS:

14.01	Include boom up sensor with indicator light and audible alarm (light in cab with audible alarm warns the driver of excessive boom height), and back-up alarm.
14.02	Strobe light on operators cab above the driver cab.
14.03	All steel fenders over rear wheels.
14.04	Breakaway mirrors on the operators cab
14.05	Two – Code 3 strobe lights per outriggers (Amber and white)
14.06	Pitchfork, rake and holder
14.07	A rear bumper or the bucket in the lock position must be 30” off the ground

Please submit the following forms on or before 2:00 pm on August 22, 2013:

1. Bid Form

2. Authorization Form

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Part II. Bid Form

SOLICITATION NUMBER: 14-SW-01

DESCRIPTION: **20' Rear Steering Knuckleboom Loader**

OPENING DATE/TIME: August 22, 2013 @ 2:00 pm

LOCATION: Conference Room @ 1739 Signal Point Road

Knuckleboom Loader Bid Price

\$ _____

Optional Equipment:

(Please price the following items separately. These items should NOT be included in your base bid price)

1. **OPTIONAL ENGINE UPGRADE:** Cummins ISL, 9L, 345 Horsepower Min., 1150lbs-ft. Torque Min or equal. **ADD \$** _____
2. **OPTIONAL ELECTRIC JOYSTICK PACKAGE:** Single one-hand operation electric joystick controlling same 6 functions as mechanical joysticks. Electric joystick option includes proportional hydraulic control valves. **ADD \$** _____
3. **OPTIONAL UPPER CAB GUAGE PACKAGE:** Digital display in upper cab showing truck gauge readings, including but not limited to, Engine Temp, Fuel Level, etc. **ADD \$** _____
4. **OPTIONAL COLLISION AVOIDANCE DEVICE:** Electronic collision avoidance device mounted on front bumper. Activated when truck is operated from upper cab. Alerts driver via visually and audibly if truck approaches any objects in close proximity (i.e. pedestrians, car, street signs, etc.) **ADD \$** _____
5. **OPTIONAL BRUSH GUARD:** A steel bolt on brush guard no higher than cab, shall be mounted at top of upper cab windshield to protect leading edge of cab & windshield. It shall be designed angling upward to divert low hanging branches over top of upper cab. **ADD \$** _____

6. Extended Loader Warranty: Extended Hydraulic Warranty (total of 2 years) covering all cylinders, valves, and pump against manufacturer's defects.

Please provide specific details of exactly what shall be covered.

ADD \$ _____

7. Extended 5 year Chassis Warranty: Please provide specific details of exactly what shall be covered.

ADD \$ _____



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Part III. Authorization Form

1. Location of Parts & Service Facilities: _____

2. *Exceptions to the minimum specifications outlined above:*

_____	_____
_____	_____
_____	_____

3. *Provide 2 entities currently using this same or similar equipment.*

	<u>Company/Organization</u>	<u>Contact Name</u>	<u>Phone Number</u>
a)	_____	_____	_____
b)	_____	_____	_____

The undersigned, having fully familiarized itself with the information contained within this entire solicitation and applicable amendments, submits the attached response, and other applicable information to the District, which it verifies to be true and correct to the best of its knowledge. The undersigned further certifies that this response is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a response for the same materials, supplies or equipment, and is in all respects, fair and without collusion or fraud. The undersigned agrees to be bound by all conditions set forth in this solicitation and certifies it has signature authority to bind the company listed herein.

Company Name

Federal ID #

Mailing Address

Print Name/Title

Contact Number

Authorized Signature

Date